AEROJET ROCKETDYNE
The Rocket Company

7499 Pine Stake Road
Culpeper, VA 22701

Tel: 540-854-2037
Fax: 540-854-2002

December 21, 2017

Via FedEx

Mr. Luis A. Pizarro, Associate Director
Office of Remediation 3 LC20
Land and Chemicals Division
U.S. Environmental Protection Agency, Region III
1650 Arch Street
Philadelphia, PA 19103

Re: Submittal of the One-hundred and ninth (109th) Quarterly Air Monitoring Report under RCRA RD&D Permit for Aerojet Rocketdyne's Orange County, Virginia Facility - EPA ID No. VAD981112618

Dear Mr. Pizarro:

This is the above-referenced one-hundred and ninth (109th) quarterly air monitoring report for the period September - November 2017, the one-hundred and ninth (109th) quarter of operation of Aerojet Rocketdyne's thermal treatment facility under the RCRA Research, Development, and Demonstration (RD&D) permit.

During this quarter, Aerojet Rocketdyne conducted one thermal treatment event (burn):

- November 1, 2017 (Burn 339A)

Burn 339A was the one-hundred-and-forty-fourth (144th) burn event since operation of the thermal treatment facility commenced under the permit.

As required by the permit, monitoring is conducted during each treatment event at one monitoring station located upwind of the thermal treatment facility and three monitoring stations located downwind. Monitoring is conducted for ammonia (NH3-N), hydrochloric acid (HCl), aluminum (Al), chromium (Cr), lead (Pb), carbon monoxide (CO), and total suspended particulates (TSPs).

WEATHER DATA:

Burn 339A

On the day of Burn 339A, the forecast was for cloudy skies, with light to moderate winds from the northeast (NE) (www.accuweather.com for Rhoadesville, VA). Initial conditions at the weather station (9:22 AM) were light winds at 2.9 meters/second (m/s) out of the North (N;

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354°). When checked at 10:22 AM, the winds were still light at 2.4 m/s and out of the N (360°). When checked again later at 11:07 AM, 12:46 PM, and 1:31 PM, the winds were still light at 1.9, 1.8, and 1.4 m/s, and were out of the ENE, NNE, and N (58°, 19°, and 358°, respectively). With the wind from the NE, and predicted to remain out of the NE to NNE for the afternoon, one upwind and three downwind air monitoring locations were selected. The upwind monitoring location selected was Site HH to the NE of the thermal treatment facility (TTF). The three downwind locations selected were Sites CC, DD, and LL, which are located to the S, SSW, and SW of the TTF, respectively (see map included as Attachment 1).

At the time of initiation of air monitoring (3:04 PM), the wind direction was out of the NNE (20°) and the wind speed was light at 1.5 m/s. At the time of thermal treatment unit ignition (3:24 PM), the wind direction was out of the N (353°) and the wind speed was light at 1.8 m/s. The most direct downwind location during this period was Site CC, which was monitored as a downwind location. At 20 minutes after the thermal treatment units were ignited (3:44 PM), the wind direction was out of the NW (310°) and the wind speed was light to moderate at 1.4 m/s. The most direct downwind locations during this period were Site BB and CC, of which CC was monitored as a downwind location. At 45 minutes after the thermal treatment units were ignited until air sampling was stopped (4:09 PM and 4:34 PM, respectively), the wind direction was out of the NNW and NNE (335° and 24°, respectively) and the wind speed was light at 2.0 m/s and 0.8 m/s, respectively. The most downwind locations during those periods were Sites CC and DD, which were monitored as downwind locations. Weather data for the date/time of the burn/monitoring event is included in Attachment 2.

MONITORING DATA:

Burn 339A

The statistical evaluation for the thermal treatment event conducted on November 1, 2017 (Burn 339A) indicated that the downwind locations sampled were in the same statistical population as the upwind location sampled, with all downwind results estimated not likely to exceed the background/upwind location or not significant because the constituents were below detection limits for all parameters (see Attachment 3 for details). Based on a review of the data and information for Burn 339A, Aerojet Rocketdyne believes that it is conclusive that air quality was not adversely impacted for monitoring parameters ammonia (NH3N), hydrochloric acid (HCl), aluminum (Al), chromium (Cr), lead (Pb), total suspended particulates (TSP), and carbon monoxide (CO).

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Should you have any questions or comments concerning any information in this quarterly air monitoring report, please contact me at 540-854-2037 or tim.holden@Rocket.com .

Sincerely,

AEROJET ROCKETDYNE, INC.
Virginia Operations

Timothy E. Holden
Sr. Manager – Safety, Health & Environment
Principal Investigator

ATT

cc: Leslie Romanchik, VDEQ/Waste Division
Richard Doucette, VDEQ/NRO
Brian Wheatley, Aerojet Rocketdyne
Clarkson Meredith, Versar

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December 21, 2017

CERTIFICATION LETTER

Dear Sir:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

The document certified by this letter is the "One-hundred and ninth (109th) Quarterly Air Monitoring Report Under RCRA RD&D Permit for Aerojet Rocketdyne, Inc.'s Orange County, Virginia Facility", RD&D Permit - EPA ID No. VAD981112618, dated December 21, 2017.

Sincerely,

AEROJET ROCKETDYNE, INC.
(BRIAN WHEATLEY FOR)

12/21/17

Chris W. Conley
Vice President of Safety, Health & Environment

AEROJET ROCKETDYNE

Ideas Powering Freedom

Memo

June 1, 2015

To: Brian Wheatley

From: Chris W. Conley
Vice President, Environmental Health and Safety

Subject: Delegation of Authority

Copies: Brian Sweeney, Chris Cambria, William Hvidsten, Ron Felix, Tom Cadwell, Tim Holden, David Rymph, Ron Sherer, Jan DeMeulenaere

Reference: (a) Memorandum, Chairman of the Board, Aerojet-General Corporation, to President, Aerojet-General Corporation, dated January 7, 1985
(b) Memorandum, Office of the President, Aerojet-General Corporation, to Vice President, Environmental Health and Safety, Aerojet-General Corporation, dated October 21, 2008

Pursuant to the delegation of authority established by reference (a) and (b), authority is further re-delegated to Brian Wheatley to execute all agreements and documents related to permit applications, reports or other information submitted to regulatory agencies on behalf of Aerojet Rocketdyne, Inc. and pertaining to its Environmental, Health and Safety functions at the Orange, VA facility.

This authority does not extend to documents expressly requiring a Aerojet Rocketdyne Holdings, Inc. Corporate Officer's signature and is subject to legal or other reviews and approvals required by Aerojet Rocketdyne Holdings, Inc. and Aerojet Rocketdyne Leadership Media. This supersedes all previous delegations that you may have received relative to signature authority on third party documents.

This authority may be re-delegated subject to such limitations as deemed advisable. Please make all subsequent delegations in duplicate originals, furnishing one to the addressee and one to the Aerojet Rocketdyne Legal Department.

Chris W. Conley
Vice President
Environmental Health and Safety

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Attachment 1

Aerojet Rocketdyne, Inc.
Orange County, Virginia

AIR MONITORING LOCATION MAPS

Thermal Treatment Event 339A
November 1, 2017

BURN 339A

11/1/17

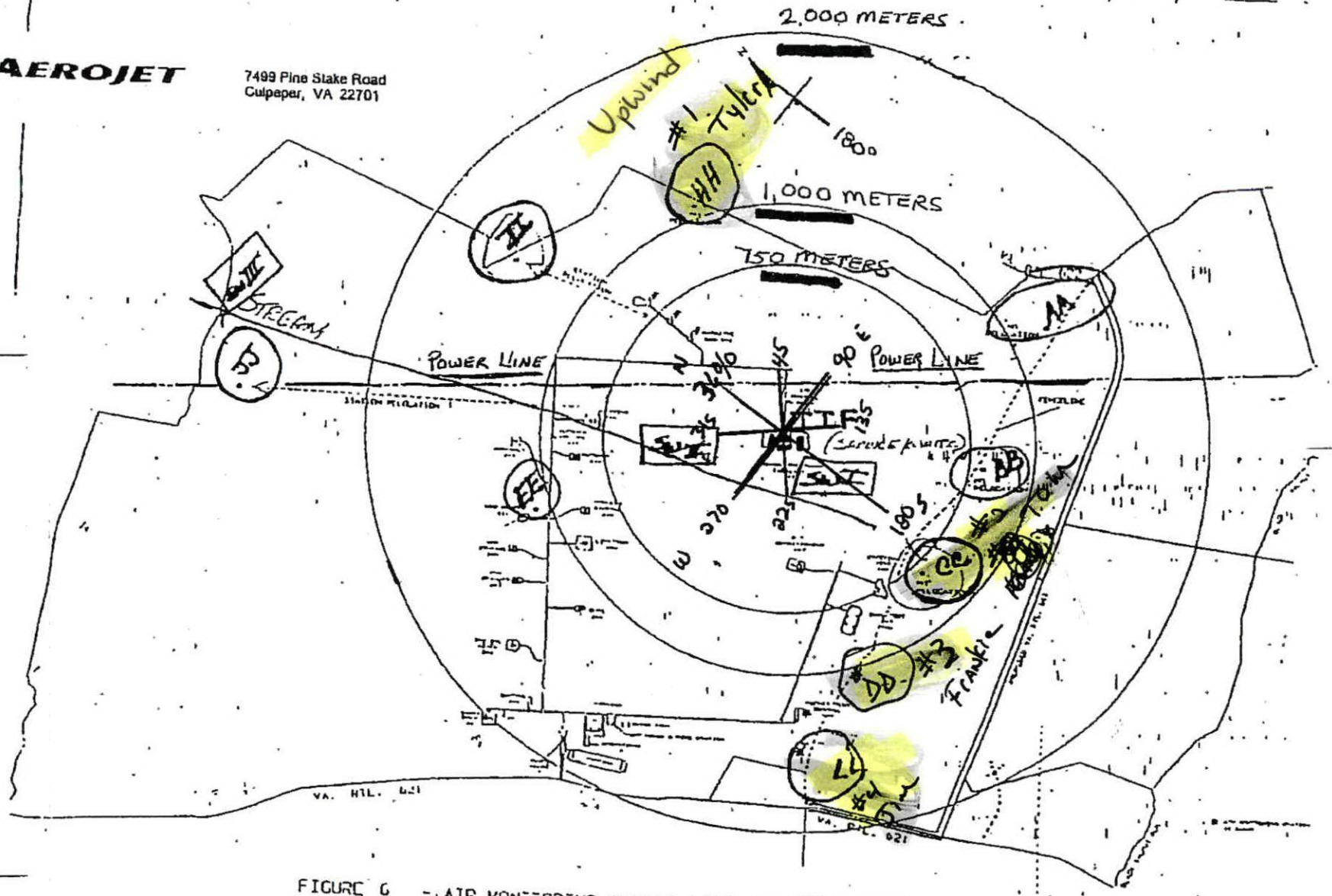

FIGURE 6 - AIR MONITORING STATIONS [redacted]
FOR OPERATIONAL PHASE AIR MONITORING

TTF = THERMAL TREATMENT FACILITY

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Attachment 2

Aerojet Rocketdyne, Inc.
Orange County, Virginia

WEATHER STATION DATA

Thermal Treatment Event 339A
November 1, 2017

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Thermal Treatment Event 339A – November 1, 2017:

TIME (EDT)	WIND SPEED (m/s)	WIND DIRECTION (°; avg.)	TEMP.(°C)	COMMENTS
9:22	2.9	354	6.7	N
10:22	2.4	360	8.2	N
11:07	1.9	58	9.2	ENE
12:46	1.8	19	10.2	NNE
13:31	1.4	358	10.8	N
15:04 (T-20)	1.5	20	12.7	NNE
15:24 (T)	1.8	353	13.1	N
15:44 (T+20)	1.4	310	12.5	NW
16:09 (T+45)	2.0	335	12.8	NNW
16:34 (T+70)	0.8	384	12.3	NNE

Air Sampling Initiated (T-20): 15:04 PM
Thermal Treatment Units Ignited (**T**): **15:24 PM**
Air Sampling Completed (T+70): 16:34 PM
N/A – Not available due to malfunction of the weather station

11/1/17 Julian Day 305

106	2017	304	2300	.512	339	37.42	5.219	
111	2017	304	2300	.831	356.8	29.38	5.587	12.53
106	2017	304	2315	.473	333.6	42.51	4.988	
106	2017	304	2330	.466	29.05	54.05	5.153	
106	2017	304	2345	.628	29.74	20.79	5.265	
106	2017	305	0	.43	44.6	43.34	5.507	
111	2017	305	0	.499	20.45	49.23	5.228	12.5
106	2017	305	15	.714	56.94	30.41	6.529	
106	2017	305	30	.831	356.1	32.59	5.706	
106	2017	305	45	1.298	12.73	16.41	6.297	
106	2017	305	100	1.334	15.66	13.46	6.259	
111	2017	305	100	1.044	19.69	32.76	6.198	12.49
106	2017	305	115	1.007	11.68	14.29	6.212	
106	2017	305	130	1.258	25	12.79	6.206	
106	2017	305	145	1.21	11.55	13.53	6.122	
106	2017	305	200	1.088	27.28	13.7	6.237	
111	2017	305	200	1.141	18.89	15.41	6.194	12.48
106	2017	305	215	.837	37.85	22.68	6.35	
106	2017	305	230	.609	38.73	29.28	6.019	
106	2017	305	245	1.206	356.2	12.19	5.387	
106	2017	305	300	1.111	14.89	15.64	5.166	
111	2017	305	300	.941	21.36	27.38	5.731	12.45
106	2017	305	315	1.17	8.49	21.49	5.03	
106	2017	305	330	1.496	34.46	23.57	5.272	
106	2017	305	345	1.258	11.41	20.15	5.076	
106	2017	305	400	1.162	25.09	13.39	5.022	
111	2017	305	400	1.271	19.83	22.53	5.1	12.43
106	2017	305	415	1.181	11.91	17.49	4.868	
106	2017	305	430	1.277	34.32	11.13	4.844	
106	2017	305	445	.966	35.12	17.96	4.713	
106	2017	305	500	.741	357.3	25.25	4.446	
111	2017	305	500	1.041	20.1	24.39	4.718	12.42
106	2017	305	515	.822	1.945	23.18	4.264	
106	2017	305	530	1.087	356	25.1	4.299	
106	2017	305	545	1.661	352.2	10.71	4.188	
106	2017	305	600	1.132	348.8	19.26	4.272	
111	2017	305	600	1.175	354.7	20.83	4.256	12.4
106	2017	305	615	1.335	346.4	13.16	4.311	
106	2017	305	630	1.621	1.592	23.93	4.378	
106	2017	305	645	1.073	15.31	18.41	4.329	
106	2017	305	700	1.171	24.08	14.06	4.323	
111	2017	305	700	1.3	6.899	22.9	4.335	12.44
106	2017	305	715	.978	18.9	16.71	4.47	
106	2017	305	730	1.33	8.68	16.57	4.967	
106	2017	305	745	1.521	5.463	16.13	5.444	
106	2017	305	800	1.292	19.56	25.97	6.128	
111	2017	305	800	1.28	13.05	20.19	5.252	13.67
106	2017	305	815	1.546	7.59	21.68	6.539	
106	2017	305	830	2.178	355.1	19.38	6.85	
106	2017	305	845	2.329	7.56	18.22	6.913	
106	2017	305	900	2.156	17.72	22.94	7.24	
111	2017	305	900	2.052	6.932	22.11	6.885	13.64
106	2017	305	915	2.796	14.73	22.07	7.82	
106	2017	305	930	2.783	12.24	19.53	8.16	

106	2017	305	945	2.636	12.76	20.56	8.54	
106	2017	305	1000	2.362	21.09	21.78	8.68	
111	2017	305	1000	2.644	15.19	21.3	8.3	13.23
106	2017	305	1015	2.445	28.2	25.05	9.29	
106	2017	305	1030	2.181	19.89	25.63	9.56	
106	2017	305	1045	2.209	16.9	25.86	9.73	
106	2017	305	1100	2.174	20.33	28.89	10.14	
111	2017	305	1100	2.252	21.34	26.72	9.68	13.21
106	2017	305	1115	2.158	6.013	21.61	10.03	
106	2017	305	1130	2.001	19.04	16.81	10	
106	2017	305	1145	1.585	13.22	22.79	10.15	
106	2017	305	1200	1.777	29.95	16.28	10.13	
111	2017	305	1200	1.88	17.17	21.42	10.08	14.01
106	2017	305	1215	1.638	22.06	22.27	10.31	
106	2017	305	1230	1.797	359.4	14.71	10.49	
106	2017	305	1245	1.436	10	18.7	10.6	
106	2017	305	1300	1.034	16.12	34.04	10.88	
111	2017	305	1300	1.476	11.66	24.82	10.57	13.25
106	2017	305	1315	.99	35.26	61.66	11.54	
106	2017	305	1330	1.39	354.4	32.75	11.61	
106	2017	305	1345	1.291	45.61	27.71	12.14	
106	2017	305	1400	1.337	3.201	27.15	12.44	
111	2017	305	1400	1.252	18.14	44.42	11.93	13.16
106	2017	305	1415	1.055	54.74	52.19	12.89	
106	2017	305	1430	1.034	347.8	75.9	13.08	
106	2017	305	1445	1.355	312.6	12.14	12.75	
106	2017	305	1500	1.342	340	22.39	12.87	
111	2017	305	1500	1.196	345.7	58.31	12.9	13.89
106	2017	305	1515	1.766	343.1	20	12.74	
106	2017	305	1530	1.972	335.8	13.05	12.33	
106	2017	305	1545	.776	23.77	22.63	12.34	
106	2017	305	1600	.785	71.3	20.59	12.24	
111	2017	305	1600	1.325	11.31	43.45	12.41	13.06
106	2017	305	1615	.642	36.36	44.51	12.2	
106	2017	305	1630	.959	348.7	9.34	11.95	
106	2017	305	1645	.72	9.9	28.78	11.71	
106	2017	305	1700	.629	29.37	7.17	11.74	
111	2017	305	1700	.738	14.99	32.23	11.9	12.78
106	2017	305	1715	.289	316.3	25.52	11.35	
106	2017	305	1730	.3	324.5	29.57	11.01	
106	2017	305	1745	.56	15.76	17.34	11.02	
106	2017	305	1800	.56	349.5	16.78	10.65	
111	2017	305	1800	.427	342	32.73	11.01	12.73
106	2017	305	1815	.661	359.4	14.67	10.55	
106	2017	305	1830	.418	33.13	30.68	10.66	
106	2017	305	1845	.272	113.1	88.1	10.53	
106	2017	305	1900	.273	137.5	41.23	10.19	
111	2017	305	1900	.406	48.93	74.8	10.48	12.71
106	2017	305	1915	.368	170.7	14.18	9.89	
106	2017	305	1930	.525	151.8	9.56	9.64	
106	2017	305	1945	.648	161.9	14.55	9.5	
106	2017	305	2000	.803	146.7	15.09	9.47	
111	2017	305	2000	.586	157.8	16.35	9.63	12.69
106	2017	305	2015	.68	159.3	9.39	9.24	

Air Monitoring Period Burn 339A 12/1/17

106	2017	305	2030	.325	140.9	10.72	8.94	
106	2017	305	2045	.681	157.6	5.715	8.69	
106	2017	305	2100	.636	136.2	25.34	8.59	
111	2017	305	2100	.581	148.8	17.77	8.86	12.66
106	2017	305	2115	.698	154.1	17.88	8.48	
106	2017	305	2130	.666	160.2	7.43	8.38	
106	2017	305	2145	.62	158.8	8.33	8.37	
106	2017	305	2200	.828	137.8	7.57	8.41	
111	2017	305	2200	.703	152.8	14.29	8.41	12.64
106	2017	305	2215	.52	151.7	14.92	8.28	
106	2017	305	2230	.459	171.3	8.52	8.05	
106	2017	305	2245	.236	141	4.186	8.12	
106	2017	305	2300	.848	147.8	8.79	8.04	
111	2017	305	2300	.516	152.9	14.98	8.12	12.61
106	2017	305	2315	.449	61.12	51.81	8.07	
106	2017	305	2330	.425	359.2	23.68	7.8	
106	2017	305	2345	.366	302.1	69.47	7.66	
106	2017	306	0	.456	178.8	14.65	7.83	
111	2017	306	0	.424	21.03	94.4	7.84	12.6
106	2017	306	15	.652	157.6	5.533	8.42	
106	2017	306	30	.636	154.8	7.26	8.29	
106	2017	306	45	.38	319.8	58.94	7.95	
106	2017	306	100	.222	182.8	40.75	8.13	
111	2017	306	100	.472	169.8	62.12	8.2	12.59
106	2017	306	115	.274	17.91	72.9	8.14	
106	2017	306	130	.472	154.3	25.02	8.42	
106	2017	306	145	.474	104.4	57.08	8.58	
106	2017	306	200	1.004	131.2	15.98	8.71	
111	2017	306	200	.556	123.3	61.95	8.46	12.57
106	2017	306	215	.756	162.9	37.27	8.79	
106	2017	306	230	.659	228.8	51.66	8.52	
106	2017	306	245	.937	316.7	13.45	8.5	
106	2017	306	300	.46	215.6	62.42	8.66	
111	2017	306	300	.703	232.9	75.2	8.62	12.56
106	2017	306	315	.606	308.9	57.24	8.67	
106	2017	306	330	.274	140.9	65.9	8.87	
106	2017	306	345	.696	161.2	19.33	8.96	
106	2017	306	400	.684	2.472	75.5	8.96	
111	2017	306	400	.565	161.9	94.5	8.86	12.55
106	2017	306	415	.556	137.3	39.26	9.13	
106	2017	306	430	.594	319.1	86.2	8.93	
106	2017	306	445	.413	235.7	65.93	8.78	
106	2017	306	500	.59	283.9	81.9	8.57	
111	2017	306	500	.538	209.3	91.9	8.85	12.53
106	2017	306	515	.692	147.8	75.2	8.98	
106	2017	306	530	.873	156.7	22.08	9.15	
106	2017	306	545	1.304	168.5	7.76	9.03	
106	2017	306	600	1.971	176.6	6.97	9.62	
111	2017	306	600	1.21	165.2	36.72	9.19	12.5
106	2017	306	615	2.305	170.1	7.11	9.63	
106	2017	306	630	2.551	175.9	8.61	9.99	
106	2017	306	645	1.67	202.7	9.59	9.76	
106	2017	306	700	1.266	224.5	8.52	9.72	
111	2017	306	700	1.948	193.1	23.51	9.77	12.52

1 - 5 of 90 days | All 90 days Next 5

TODAY NOV 1	THU NOV 2	FRI NOV 3	SAT NOV 4	SUN NOV 5
63°/47°F	75°/50°	78°/50°	61 °	69°/54°
Mostly cloudy	Pleasant and warmer	An afternoon shower in spots	Rather cloudy and cooler	Low clouds
	More	More	More	More

Now | Daily | Hourly | Morning | Afternoon | Evening | Overnight

Next 8 hours

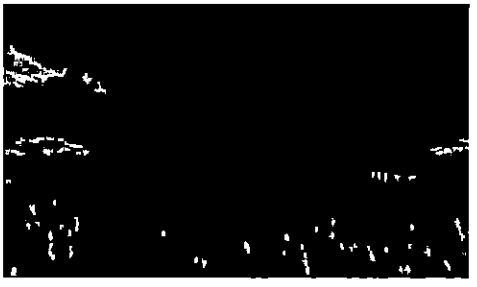
WEDNESDAY	11am	12pm	1pm	2pm	3pm	4pm	5pm	6pm
Forecast	Cloudy	Cloudy	Cloudy	Cloudy	Cloudy	Cloudy	Cloudy	Mostly Cloudy
Temp (°F)	52°	57°	59°	61°	62°	63°	62°	59°
RealFeel®	54°	59°	61°	63°	64°	64°	63°	59°
Wind (mph)	4 N	5 NNE	5 NE	5 ESE	5 SE	5 SE	5 SE	4 SE

Trending Now

Lightning strikes right next to man filming thunderstorm

House washes away in New Hampshire flooding

TRENDING NOW



Windstorm season: How, why naming UK and Ireland's severe weather improves public awareness

During windstorm season, the United Kingdom is prone to experiencing bouts of potentially severe weather, including heavy rainfall and powerful, damaging winds.

Read Story

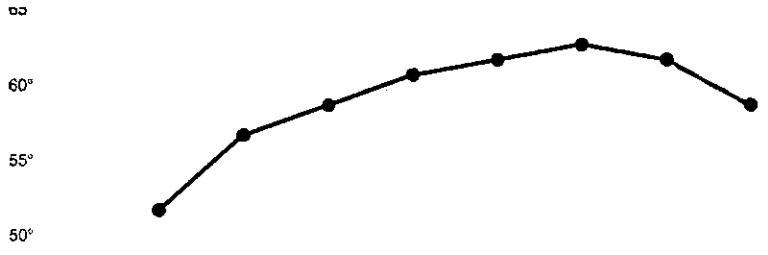
Photos: Hundreds of thousands in the dark after potent storm lashes Northeast with hurricane-force winds

A powerful storm unleashed flooding and

PRECIP	11am	12pm	1pm	2pm	3pm	4pm	5pm	6pm
Rain	0%	0%	0%	0%	0%	0%	0%	0%
Snow	0%	0%	0%	0%	0%	0%	0%	0%
Ice	0%	0%	0%	0%	0%	0%	0%	0%

SKY	11am	12pm	1pm	2pm	3pm		5pm	6pm
UV Index	1	1	1	1	1		0	0
Cloud Cover	92%	91%	90%	90%	90%		90%	89%
Humidity	76%	71%	64%	59%	55%	56%	62%	73%
Dew Point	45°	48°	47°	46°	46°	47°	49°	50°

TEMP °F 11am 12pm 1pm 2pm 3pm 4pm 5pm 6pm



Next 8 hours

TEMPERATURE HISTORY NOV 1

	Today	Normal	Record	11/1/2016
High	63°	64°	N/A	63°
Low	47°	41°	N/A	43°

More Historical Weather Data

SUNRISE/SUNSET

Sunrise: 7:38 AM
Sunset: 6:12 PM

Duration: 10:34 hr

MOONRISE/MOONSET

Moonrise: 5:03 PM
Moonset: 5:35 AM

Duration: 12:32 hr

Astronomy

strong winds, which resulted in widespread power outages and travel disruptions, in the northeastern United States from Sunday to Monday.

Read Story

More Trending Now

7499 Pine Stake Road
Culpeper, VA 22701

Tel: 540-854-2037
Fax: 540-854-2002

Attachment 3

Aerojet Rocketdyne, Inc.
Orange County, Virginia

Monitoring Results & Statistical Evaluation

Thermal Treatment Event 339A
November 1, 2017

December 21, 2017

Mr. Tim Holden
Environmental Manager
Aerojet Corporation
7499 Pine Stake Road
Culpeper, VA 20155

Subject: Burns 339A Statistical Report: Versar Project No. 112133

Dear Mr. Holden:

Enclosed please find General Chemistry Results and Statistical Evaluations for Burn 339A conducted on November 1, 2017. All results were estimated as not likely to exceed background or as not significant because the constituents were not detected (e.g., hydrogen chloride).

Should you have any questions, please do not hesitate to contact me at (703) 642-6842.

Sincerely,

H. Clarkson Meredith, III
Sr. Project Manager
Springfield Environmental Services Group

Enclr.

VERSAR

6850 Versar Center
Springfield, VA 22151
703.750.3000
www.versar.com

AEROJET CORP., ORANGE COUNTY FACILITY
Burn 339A - Statistical Evaluation
November 1, 2017

BURN 339A RAW FIELD DATA AND LABORATORY RESULTS

SAMPLE NUMBER	SAMPLE LOCATION	NH3-N (ug/sample)	HCl in air (ug/sample)	Al (ug/sample)	Cr (ug/sample)	Pb (ug/sample)	CO (ppm)	Total Suspended Particulates (TSP) (mg) after	(mg) before	(mg/sample) mass
HH-339A	Upwind	5.57	5 <	55.1	0.243 <	1.94 <	0.33	4,348.6	4,346.2	2.4
CC-339A	Downwind	4.68	5 <	49.9	0.243 <	1.94 <	0.39	4,335.3	4,331.1	4.2
DD-339A	Downwind	7.61	5 <	56.1	0.260	1.93 <	0.36	4,327.9	4,324.8	3.1
LL-339A	Downwind	6.60	5 <	51.4	0.242 <	1.93 <	0.55	4,337.1	4,335.2	1.9

		NH3-N VOLUMES (L)	HCl in air VOLUMES (L)	Metals & TSP VOLUMES (ft^3)	CO Volumes (L)
HH-339A	Upwind	18.234	36.270	3,600	9.180
CC-339A	Downwind	18.216	36.234	3,600	9.144
DD-339A	Downwind	18.306	36.216	3,600	9.054
LL-339A	Downwind	18.306	36.270	3,600	9.090

< - Denotes constituent not detected. Value is the analytical reporting limit.

AEROJET CORP., ORANGE COUNTY FACILITY
Burn 339A - Statistical Evaluation
November 1, 2017

SAMPLE NUMBER	SAMPLE LOCATION	NH3-N (ug/m3)		HCl in air (ug/m3)	Al (ug/m3)		Cr (ug/m3)		Pb (ug/m3)	CO (ppm)	TSP (ug/m3)
BURN 339A											
HH-339A	Upwind	305.5	<	137.9	0.54	<	0.002	<	0.00953	0.33	23.6
CC-339A	Downwind	256.9	<	138.0	0.49	<	0.002	<	0.00953	0.39	41.3
DD-339A	Downwind	415.7	<	138.1	0.55		0.003	<	0.00948	0.36	30.5
LL-339A	Downwind	360.5	<	137.9	0.50	<	0.002	<	0.00948	0.55	18.7

NOTES:
< = Not detected.

	NH3-N	HCl in air	Al	Cr	Pb	CO	TSP
COUNT:	3	3	3	3	3	3	3
MEAN DOWNWIND CONC.:	344	69.0	0.52	0.00	0.0048	0.433	30.1
STANDARD DEVIATION:	66	0.04	0.03	0.000	0.0000	0.083	9.2
SQRT(N+1/n):	1.15	1.15	1.15	1.15	1.15	1.15	1.15
SAMPLE t VALUE:	0.51	1.16	0.86	0.56	0.5	1.07	0.61
DEGREE OF FREEDOM:	2	2	2	2	2	2	2
CRITICAL t VALUE:	6.965	6.965	6.965	6.965	6.965	6.965	6.965
COMMENTS:	NOT SIGN	*NOT SIGN	NOT SIGN	NOT SIGN	*NOT SIGN	NOT SIGN	NOT SIGN

NOTES:
NOT SIGN = Not Significant. Population mean of downwind concentrations likely does not exceed upwind concentrations.
*NOT SIGN = Not Significant. All downwind samples results were below the reporting limit.
SIGNIFICANT = Population mean of downwind concentrations likely exceeds the upwind concentration.